

STATE OF LOUISIANA
DEPARTMENT OF NATURAL RESOURCES
OFFICE OF CONSERVATION
INJECTION AND MINING DIVISION
UNDERGROUND INJECTION CONTROL PROGRAM

ANNUAL PROGRAM REPORT
LOUISIANA FISCAL YEAR 20
(July 1, 2020 - June 30, 2021)
Prepared October 27, 2021

1. Program Administration:

All deliverables summarized in the State Fiscal Year 2021 Work Plan, Table 4, Page 14 were submitted to the U.S. Environmental Protection Agency (USEPA), Region 6.

2. Program, Regulatory, or Statutory Changes:

The following program, regulatory, and statutory changes in the Louisiana UIC Program took place during State Fiscal Year 2021:

- a. The Louisiana Class VI rules were promulgated January 2021, and a public hearing on the Class VI primary enforcement application was scheduled for July 14, 2021. The aim is to obtain primacy in the first quarter of 2022.
- b. LA R.S. 30:23 was amended to add underground storage of hydrogen, ammonia, nitrogen, compressed air, and the noble gases to the previously listed hydrocarbons and carbon dioxide.
- c. LA R.S. 30:1103 and 1104 were amended to allow the commissioner of conservation to hold confidential any information that EPA deems to be Confidential Business Information in the same manner and to the same extents as the EPA.
- d. LA R.S. 30:1110 was amended to allow the commissioner to charge a fee that does not exceed the actual or anticipated cost to the state for the review of the permit or application. The statute was also revised to remove the seven hundred fifty thousand dollar cap allowed for administration of the program.

3. Personnel Activities:

- a. Seth Henderson was promoted to Petroleum Scientist Manager 1 in the Enforcement Section effective December 28, 2020.
- b. Myra Stewart (Administrative Coordinator) retired effective March 12, 2021.

- c. Luzma Mata de Leder (Petroleum Scientist III, Geologic Section) retired effective June 2, 2021.
- d. Laura Sorey was promoted to Petroleum Scientist Supervisor in the Geological Section effective June 28, 2021.

4. Field Surveillance

Witnessed Part I Mechanical Integrity Pressure Tests on 927 distinct injection/disposal wells and performed on-site inspections of 1,928 distinct injection/disposal wells.

5. Compliance/Enforcement:

- a. Issued 23 Compliance (Administrative) Orders for regulatory violations concerning 23 separate injection wells.
- b. Issued 435 separate Notices of Violations against 373 distinct injection wells for various operating, maintenance, or reporting violations of Louisiana UIC Program regulations.
- c. Shut-in 70 injection wells for mechanical integrity violations.
- d. Operators returned 392 injection wells with mechanical integrity violations back to compliance.
- e. Assessed \$24,500 in civil penalties and collected \$18,000 in civil penalties.

6. Class I Injection Well Activities:

- a. Applications Under Review:

Premier Environmental
SG Haller Waste Disposal No. 001, Appl. No. 41382
Wildcat – SO LA Lafayette Dist., Plaquemines Parish
Non-hazardous waste – Conversion

HRWN Bossier, LLC
HRWN Bossier Waste Disposal Well No. 01
Elm Grove Field – Bossier Parish
Commercial non-hazardous waste – New Drill

- b. No applications were denied.

- c. No applications to re-permit existing Class I wells were received.
- d. No Class I wells plugged & abandoned.

7. Louisiana-Texas Memorandum of Understanding: – Reciprocal Notice of UIC Well Applications within One Mile of the States’ Respective Border:

- a. The Railroad Commission of Texas forwarded four (4) UIC well applications to the Louisiana Office of Conservation for comment.
- b. The Louisiana Office of Conservation forwarded two (2) well applications to the Railroad Commission of Texas for comment.

8. Class II Noncommercial Exploration and Production Waste Disposal Well Activities:

- a. Salt Water Disposal:
 - i. Received 38 applications to drill new injection wells or to convert existing wells to injection.
 - ii. Issued 39 permits to drill new injection wells or convert existing wells to injection.
 - iii. Denied one (1) application to drill new injection wells or convert existing wells to injection.
 - iv. Four (4) applications were withdrawn by the applicant.
 - v. Processed 192 applications to conduct various well maintenance (workover) operations
- b. Annular mud disposal applications:
 - i. Two (2) applications were received.
 - ii. No applications were denied.
 - iii. No applications were approved.

9. Class II Enhanced Recovery (ER) Activities:

- a. Received no permit applications to drill new ER wells or convert existing wells to ER injection.

- b. Issued three (3) permit applications to drill new ER wells or convert existing wells to ER injection.
- c. Approved 22 applications to conduct various well maintenance (work over) operations.
- d. One (1) application was withdrawn by the applicant.

10. Class II Commercial Exploration and Production Waste Disposal Well Activity:

- a. Commercial Well Applications Currently Under Review:

R360 ENVIRONMENTAL SOLUTIONS OF LA, LLC
Templet SWD No. 005, Appl. No. 42243
Lake Long Field, Lafourche Parish

- b. New Well Permits Issued:

SALT LICK, LLC
Edwards SWD No. 001, Appl. No. 40942
Bracky Branch Field, Red River Parish

- c. Permits Denied:

No permits were denied.

11. Hydrocarbon Storage in Solution-Mined Salt Caverns:

- a. Applications in Review:

Hazelwood Holdings, LLC
HEC No. Y-1, Appl. No. 41505
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. Y-1, Appl. No. 41506
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C-1, Appl. No. 41507
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C-2, Appl. No. 41508
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C2-1, Appl. No. 41509
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C-3, Appl. No. 41510
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C-4, Appl. No. 41511
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C4-1, Appl. No. 41512
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. ET-1, Appl. No. 41513
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. M-1, Appl. No. 41514
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

Hazelwood Holdings, LLC
HEC No. C3-1, Appl. No. 41515
Port Barre Salt Dome, Saint Landry Parish
Liquid Hydrocarbon Storage

b. Newly permitted hydrocarbon storage well applications:

Enlink Processing Services, LLC
Enlink No. 003, Appl. No. 41485
Napoleonville Salt Dome, Assumption Parish
LPG Storage

Enlink Processing Services, LLC
Enlink No. 004, Appl. No. 41486
Napoleonville Salt Dome, Assumption Parish
LPG Storage

Pine Prairie Energy Center, LLC
PP-CW No. 006, Appl. No. 41758
Pine Prairie Salt Dome, Evangeline Parish
Natural Gas Storage

Pine Prairie Energy Center, LLC
PP-CW No. 007, Appl. No. 41759
Pine Prairie Salt Dome, Evangeline Parish
Natural Gas Storage

- c. Approved 91 applications to conduct various well maintenance or remedial operations on hydrocarbon storage wells.

12. Class III Brine Solution Mining Projects:

- a. Class-III salt solution mining well applications under review:

Boardwalk Louisiana Midstream, LLC
BLM No. 003, Appl. No. 40662
Napoleonville Salt Dome, Assumption Parish

Boardwalk Louisiana Midstream, LLC
BLM No. 004, Appl. No. 40663
Napoleonville Salt Dome, Assumption Parish

Eagle US 2, LLC
Eagle Brine No. 025, Appl. No. 39172
Sulphur Mines Salt Dome, Calcasieu Parish

Hazelwood Holdings, LLC
HEC No. Y-1, Appl. No. 41489
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. Y-1, Appl. No. 41490
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C-1, Appl. No. 41491
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C-2, Appl. No. 41497
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C2-1, Appl. No. 41498
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C-3, Appl. No. 41499
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C-4, Appl. No. 41500
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C4-1, Appl. No. 41501
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. ET-1, Appl. No. 415102
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. M-1, Appl. No. 41503
Port Barre Salt Dome, Saint Landry Parish

Hazelwood Holdings, LLC
HEC No. C3-1, Appl. No. 41504
Port Barre Salt Dome, Saint Landry Parish

Pine Prairie Energy Center, LLC
PP-CW No. 006, Appl. No. 32182

Pine Prairie Salt Dome, Evangeline Parish

Pine Prairie Energy Center, LLC
PP-CW No. 007, Appl. No. 32601
Pine Prairie Salt Dome, Evangeline Parish

Martin Operating Partnership, LP
Storage Well M No. 003, Appl. No. 40497
Arcadia Salt Dome, Bienville Parish

Martin Operating Partnership, LP
Storage Well M No. 004, Appl. No. 40498
Arcadia Salt Dome, Bienville Parish

b. Newly Permitted Solution Mining Wells and Salt Caverns:

Boardwalk Louisiana Midstream, LLC
Choctaw Storage No. 032, Appl. No. 40672
Bayou Choctaw Salt Dome, Iberville Parish

Boardwalk Louisiana Midstream, LLC
Choctaw Storage No. 033, Appl. No. 40673
Bayou Choctaw Salt Dome, Iberville Parish

Shintech Louisiana, LLC
Wilbert No. 005, Appl. No. 41276
White Castle Salt Dome, Iberville Parish

Shintech Louisiana, LLC
Wilbert No. 006, Appl. No. 41277
White Castle Salt Dome, Iberville Parish

Enlink Processing Services, LLC
Enlink No. 003, Appl. No. 40250
Napoleonville Salt Dome, Assumption Parish

Enlink Processing Services, LLC
Enlink No. 003, Appl. No. 40251
Napoleonville Salt Dome, Assumption Parish

c. One (1) Class-III salt solution mining well applications was withdrawn.

d. Approved 60 applications to do various well maintenance (workover) operations.

13. Class-V Well Projects:

- a. Permitted 32 wells associated with aquifer remediation projects that are under the supervision of the Louisiana Department of Environmental Quality (LDEQ).
- b. Approved seven (7) applications to do various well maintenance (workover) operations.

14. Training, Seminars, Conferences

7-7-2020: Geomechanical Risk Assessment using State of Stress Analysis Tool (SOSAT)
7-21-2020: NRAP Webinar – “Short-term Seismic Forecasting”
8-14-2020: AGI Webinar – Hydrogeology and Groundwater Use
9-14 to 9-17-2020: PHMSA Underground Natural Gas Storage training course
9-15-2020: NRAP Webinar – “Optimal Design of Microseismic Monitoring Network”
9-28 to 9-30-2020: GWPC Virtual Groundwater Conference
10-15-2020: Gulf Coast Cavern Operators symposium “Dewatering Caverns using ESPs”
10-19 to 10-21 and 10-26 to 10-28-2020: SCA “Practical Interpretation of Open Hole Logs”
10-21-2020: LOGA Southern Energy Conference
10-22-2020: Stanford University - “An Action Plan for Carbon Capture and Storage in California: Opportunities, Challenges, and Solutions”
10-28-2020: IOGCC -“CO₂, EOR, and Carbon Capture: Regulators in the Know”
10-2020 (multiple days): 2020 EPA UIC National Inspector Virtual Training
11-4-2020: “Petroleum Hydrocarbon Remediation”
11-5-2020: “Petroleum Hydrocarbon Site Data Management & Performance Monitoring Strategies.”
11-12-2020: Salt University Webinar #1: Reducing Risk – Integrity of Underground Storage Assets (presented by Cavern Solutions).
11-12-2020: ASR-MAR Workgroup Webinar on “Managed Aquifer Recharge in California – Long-Term Projects & New Emphasis Under New Groundwater Law.”
11-17 to 11-18-2020: Global CCS Institute’s “Developing CCUS Projects in Louisiana and the Gulf Coast” Webinar
12-9-2020: Enhanced Oil Recovery Institute “CO₂ Transport Infrastructure MOU -- Wyoming Perspective.”
12-11-2020: Baton Rouge Geological Society (BRGS) “Constructing Large-Scale Complex Aquifer Systems with Big Well Log Data: Applications in Louisiana”
12-18-2020: Texas Bureau of Economic Geology “Induced seismicity and carbon storage: Moving towards improved risk assessment and risk mitigation strategies” webinar
1-21-2021: “Mine Subsidence: Cause, Effect, Mitigation” by Dr. Gennaro, sponsored by SME (Society for Mining, Metallurgy & Exploration) Alabama.
2-4-2021: Regional Induced Seismicity Collaborative (RISC) webinar via Zoom- Presented by Ivan G. Wong, P.G.

3-12-2021: BRGS meeting on "Geologic Aspects of Carbon Capture and Storage Regulation in Louisiana."

4-13-2021: RISC Induced Seismicity presentation

4-19 to 4-22-2021: Solution-Mining Research Institute (SMRI) 2021 Virtual Conference for Salt Caverns.

5-5-2021: LSU Geology Energy Workshop

5-11-2021: 4D fiber optic well surveillance for CO2 plume monitoring presentation

5-13-2021: USDA/FSA Source Water Program Workshop (La Rural Water Assc)

6-9-2021: Technical & Policy Issues Surrounding CCUS & Class VI UIC (GWPC)

6-15-2021: Louisiana Energy Climate Solutions Workshop

15. Work Plan Target Accomplishments: July 1, 2020 - June 30, 2021

The following table summarizes the proposed targeted and actual accomplished surveillance activities for Louisiana State Fiscal Year 2021:

	ROUTINE WELL INSPECTIONS		OC/IMD WITNESSED MIT'S		PARTS I & II MECHANICAL INTEGRITY TESTS		COMPLIANCE REVIEWS ‡	
WELL CLASS	Target Value	Actual Value	Target Value	Actual Value	Target Value	Actual Value	Target Value	Actual Value
I	85	73	85	68	35	40	40	15
II (SWD & ER)	2,500	3,377	1,300	923*	800	226*	500	2235
II (Storage)	50	87	Not Applicable †		30	18	40	22
III	25	30	Not Applicable †		18	10	40	8
VI	Unknown	No Wells Exist	Unknown	No Wells Exist	Unknown	No Wells Exist	Unknown	No Wells Exist

* Actual witnessed MIT's for Class II wells were lower than planned due to Covid-19 site access restrictions along with reduced Oil & Gas prices and staffing shortages that caused many Operators to shut in fields and/or delay workovers.

† Tests on salt caverns occur over several days making witnessing by OC personnel impractical. Test data recorded continuously with the data submitted to OC for review.

‡ In-house review of well file by OC personnel ensuring compliance with permit or regulations.